

CLAIMS

1. A system for transferring data from a portable data capturing device to a data processing means, the system comprising:

5 a wireless communications means for transmitting data from said data capturing device to the data processing means, the wireless communications means comprising a transmitter in communication with said data capturing device and a receiver in communication with the data storage means, the transmitter having a finite transmission range; and

10 a buffer in communication with said data capturing device for temporarily storing at least some of the data captured by the said data capturing device,

wherein data which is temporarily stored in the buffer is only transmitted to the receiver when the receiver is located within the transmission range of the transmitter.

15 2. The system according to claim 1, wherein the buffer has a finite buffer storage capacity, the arrangement being such that when the buffer is filled to storage capacity, the data capturing means ceases capturing data.

3. The system according to claim 2, wherein an alarm signal is generated to alert a
20 user when the buffer is filled to storage capacity.

4. The system according to claim 1, further comprising a range detection means for detecting when the receiver is out of transmission range of the transmitter.

25 5. The system according to claim 1, further comprising a controller for controlling operation of the buffer and the transmitter.

6. The system according to claim 1, further comprising an out-of-range indicator

at the location of the data capturing device for indicating to a user when the receiver is outside the transmission range.

7. The system according to claim 1, further comprising an encryption means for
5 encrypting data before the data is transmitted.

8. The system according to claim 1, wherein said data capturing device is adapted
to capture coded data recorded on a surface.

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10 9. The system according to claim 8, wherein the coded data is optically encoded
on the surface.

10. The system according to claim 9, wherein the data capturing device comprises a
sensing device for sensing region identity data and generating movement data when the
15 sensing device is moved relative to a region of a surface, the region identity data being
indicative of an identity of the region, the movement data being indicative of the
movement of the sensing device relative to the region, the surface having disposed upon
it coded data indicative of at least one region associated with the surface, the sensing
device including:

20 region identity sensing means configured to sense the region identity data using
at least some of the coded data;

motion sensing means configured to generate the movement data; and

communications means configured to communicate the region identity data and
the movement data to a computer system.

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11. A sensing device according to claim 10, wherein the motion sensing means is
configured to generate the movement data using at least some of the coded data.

12. A sensing device according to claim 11, wherein the coded data is also indicative of a plurality of reference points of the region, the motion sensing means being configured to generate the movement data on the basis of the sensing device's movement relative to at least one of the reference points.

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13. A sensing device according to claim 12, wherein the coded data includes periodic elements, the motion sensing means being configured to generate the movement data on the basis of the sensing device's movement relative to at least one of the periodic elements.

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14. A sensing device according to claims 12 or 13, wherein the motion sensing means is configured to sample the position of the sensing device relative to the at least one reference point or periodic element, thereby to generate the movement data.

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15. A sensing device according to claim 10, wherein the movement sensing means includes at least one acceleration sensing means, the acceleration sensing means being configured to sense acceleration of the sensing device as it is moved relative to the surface region, the movement sensing means being configured to generate the movement data by periodically sampling the acceleration.

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16. A sensing device according to claim 10, wherein the sensing device is in the form of a stylus or pen.

17. A sensing device according to claim 10, further including a force sensing means configured to sense a force applied to a surface by the sensing device, and for providing force data corresponding to the force applied.

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18. The system according to claim 17, wherein, when the receiver is in transmission range, data stored in the buffer is transmitted to the receiver each time the force sensing

means senses that contact between the data capturing device and the surface has been broken.

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5 19. A method of transferring data from a portable data capturing device to a data processing means, the method comprising the steps of transmitting data from said data capturing device to a receiver in communication with the data processing means via a wireless communications means when the receiver is within a finite transmission range, and buffering at least some of the data captured by said data capturing device when the receiver is outside the finite transmission range.

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1. A system for transferring data from a portable data capturing device to a data processing means, the system comprising:

5 a wireless communications means for transmitting data from said data capturing device to the data processing means, the wireless communications means comprising a transmitter in communication with said data capturing device and a receiver in communication with the data storage means, the transmitter having a finite transmission range; and

10 a buffer in communication with said data capturing device for temporarily storing at least some of the data captured by the said data capturing device,
wherein data which is temporarily stored in the buffer is only transmitted to the receiver when the receiver is located within the transmission range of the transmitter.

15 2. The system according to claim 1, wherein the buffer has a finite buffer storage capacity, the arrangement being such that when the buffer is filled to storage capacity, the data capturing means ceases capturing data.

3. The system according to claim 2, wherein an alarm signal is generated to alert a
20 user when the buffer is filled to storage capacity.

4. The system according to claim 1, further comprising a range detection means for detecting when the receiver is out of transmission range of the transmitter.

25 5. The system according to claim 1, further comprising a controller for controlling operation of the buffer and the transmitter.

6. The system according to claim 1, further comprising an out-of-range indicator

at the location of the data capturing device for indicating to a user when the receiver is outside the transmission range.

7. The system according to claim 1, further comprising an encryption means for
5 encrypting data before the data is transmitted.

8. The system according to claim 1, wherein said data capturing device is adapted
to capture coded data recorded on a surface.

10 9. The system according to claim 8, wherein the coded data is optically encoded
on the surface.

10. The system according to claim 9, wherein the data capturing device comprises a
sensing device for sensing region identity data and generating movement data when the
15 sensing device is moved relative to a region of a surface, the region identity data being
indicative of an identity of the region, the movement data being indicative of the
movement of the sensing device relative to the region, the surface having disposed upon
it coded data indicative of at least one region associated with the surface, the sensing
device including:

20 region identity sensing means configured to sense the region identity data using
at least some of the coded data;

motion sensing means configured to generate the movement data; and

communications means configured to communicate the region identity data and
the movement data to a computer system.

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11. A sensing device according to claim 10, wherein the motion sensing means is
configured to generate the movement data using at least some of the coded data.

12. A sensing device according to claim 11, wherein the coded data is also indicative of a plurality of reference points of the region, the motion sensing means being configured to generate the movement data on the basis of the sensing device's movement relative to at least one of the reference points.

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13. A sensing device according to claim 12, wherein the coded data includes periodic elements, the motion sensing means being configured to generate the movement data on the basis of the sensing device's movement relative to at least one of the periodic elements.

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14. A sensing device according to claims 12 or 13, wherein the motion sensing means is configured to sample the position of the sensing device relative to the at least one reference point or periodic element, thereby to generate the movement data.

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15 15. A sensing device according to claim 10, wherein the movement sensing means includes at least one acceleration sensing means, the acceleration sensing means being configured to sense acceleration of the sensing device as it is moved relative to the surface region, the movement sensing means being configured to generate the movement data by periodically sampling the acceleration.

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16. A sensing device according to claim 10, wherein the sensing device is in the form of a stylus or pen.

17. A sensing device according to claim 10, further including a force sensing means
25 configured to sense a force applied to a surface by the sensing device, and for providing force data corresponding to the force applied.

18. The system according to claim 17, wherein, when the receiver is in transmission range, data stored in the buffer is transmitted to the receiver each time the force sensing

means senses that contact between the data capturing device and the surface has been broken.

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19. A method of transferring data from a portable data capturing device to a data processing means, the method comprising the steps of transmitting data from said data capturing device to a receiver in communication with the data processing means via a wireless communications means when the receiver is within a finite transmission range, and buffering at least some of the data captured by said data capturing device when the receiver is outside the finite transmission range.

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